**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | |
|---|---|---|
| In re Application of<br>Steven M. Powell, *et al.* | ) | |
| Serial No. 10/694,617 | ) | Before the Board of Patent Appeals and Interferences |
| Filed: October 27, 2003 | ) | |
| For: Tubular Polymeric Composites for Tubing and Hose Constructions | ) | |
| | ) | November 22, 2006 |
| Examiner Patrick F. Brinson<br>Group Art Unit 3754 | ) | Cleveland, Ohio 44124-4141 |

HONORABLE COMMISSIONER FOR PATENTS
ALEXANDRIA, VA 22313-1450

## APPELLANTS' BRIEF ON APPEAL

Submitted herewith in accordance with 37 C.F.R. § 1.192 is Appellants' Brief on Appeal. Reversal of the Examiner's rejection of the appealed claims and the allowance thereof is respectfully requested.

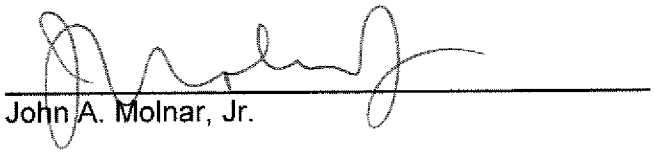
The Commissioner is authorized to charge the requisite fee or to credit any overpayment to Deposit Account No. 16-0325 (a separate deposit account authorization is enclosed).

Respectfully submitted,

John A. Molnar, Jr.
Reg. No. 36,611
Attorney for Appellant
PARKER-HANNIFIN CORPORATION
6035 Parkland Boulevard
Cleveland, OH 44124-4141
Telephone: (216) 896-2212
Facsimile: (216) 896-4027

## CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office by EFS on November 22, 2006.



John A. Molnar, Jr.

## I. REAL PARTY IN INTEREST

Parker-Hannifin Corporation, an Ohio corporation having an address at 6035 Parkland Boulevard, Cleveland, Ohio 44124-4141, owns all right, title and interest in the above-identified application by virtue of an Assignment recorded September 12, 2002, on Reel 013082, Frame 0478.

## II. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known to Appellants, Appellants' legal representative, or assignee, which would directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

## III. STATUS OF CLAIMS

i. Claims originally filed: 1-43.

ii. Claims canceled: none.

iii. Claims added: none.

iv. Claims withdrawn from consideration but not canceled: 1-35 and 41-43.

v. Claims allowed: none.

vi. Claims rejected: 36 and 37.

vii. Claims objected to: 38-40.

viii. Claims pending: 36-40.

ix. Claims on appeal: 36-40.

## IV. STATUS OF AMENDMENTS

Forty-three (43) claims were submitted in the subject application as originally filed.

A first Office action was mailed on June 02, 2005, imposing a restriction requirement as between claims 1-35, 36-39 [*sic*], and 40-43. Claims 36-40 were elected in a response dated June 24, 2005.

A first Office action on the merits October 05, 2005, was mailed on November 30, 2001, rejecting claims 36 and 37, objecting to claims 38-40, and withdrawing claims 1-35 and 41-43 as

being drawn to non-elected inventions. Responsive to that action, an amendment was filed on March 14, 2006, amending claims 38 and 40 to correct certain informalities.

A second and final Office action, mailed June 16, 2006, maintained the rejection of claims 36 and 37, and the objections to claims 38-40 as being dependent on a rejected base claim, but otherwise as constituting allowable subject matter. This appeal followed.

The claims pending in the application therefore are 36-40, all of which are subject to the instant appeal. A clean copy of t claims is annexed hereto as "Appendix A."

## V. SUMMARY OF THE INVENTION

The present invention relates broadly to tubular polymeric composites for use as hoses and tubing. [*See* Specification, at page 1, ll. 6-8]. As claimed, the invention is directed to a construction for such composites including a first layer formed of a chemically-resistant polyamide material, and a second layer bonded directly to the first layer. [page 4, ll. 4-15]. The second layer is formed of a less-expense, more general purpose polyurethane material having a relatively high durometer to provide strength and flexibility to the construction. [page 9, l. 3, bridging page 10, l. 3].

## VI. ISSUES

Did the Examiner err in finally rejecting claims 36 and 37 under 35 U.S.C. § 103(a) as being unpatentable over Douchet (U.S. Patent No. 5,706,865), in view of Gray *et al.* (U.S. Patent No. 4,380,252)?

## VII. GROUPING OF CLAIMS

For the purpose of the present appeal only, it is Applicants-Appellants' intention that the claims be grouped as follows:

i. Independent claims 36 is considered to be patentable independent of the other claims;

ii. Claim 37 is considered to stand or fall with independent claim 36 from which it depends; and

iii. Claims 38-40 are considered to be patentable independently of the other claims, but as standing or falling together.

## VIII. ARGUMENT

*The Examiner erred in finally rejecting claims 36 and 37 under 35 U.S.C. § 103(a) as being unpatentable over s 36 and 37 under 35 U.S.C. § 103(a) as being unpatentable over Douchet (U.S. Patent No. 5,706,865), in view of Gray et al. (U.S. Patent No. 4,380,252).*

Claims 36 and 37 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over unpatentable over Douchet (U.S. Patent No. 5,706,865), in view of Gray *et al.* (U.S. Patent No. 4,380,252).

Douchet has been cited as disclosing a multi-layer hose having a second layer of a hot melt polyurethane bonded to a first layer of a polyamide. Gray *et al.* has been cited as disclosing a multi-layer hose including an inner layer formed of a polyurethane material having a hardness of from about 75 Shore A to about 63 Shore D. The examiner is of the opinion that it would have been obvious to modify the polyurethane of Douchet to have a durometer of at least 63 Shore D as suggest by Gray *et al.* in order to harden and stiffen the hose to accept reinforcement without substantial deformation of the tube.

However, it is well-settled that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion, or incentive supporting the combination. *In re Geiger*, 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987), *citing ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1987), *See also Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (noting that the "absence of such a suggestion to combine is dispositive in an obviousness determination"). The Federal Circuit has cautioned that the suggestion to combine requirement is a safeguard against the use of hindsight combinations to negate patentability. See *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).

Applicants are mindful that evidence of a suggestion, teaching, or motivation to combine prior art references may be found not just in the references themselves, but also in the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved, although "the suggestion more often comes from the teachings of the pertinent references." *In re Dembiczak*, 175 F.3d at 994, 999 (Fed. Cir. 1999), *citing Rouffet*, 149 F.3d at 1355. Although a reference need not expressly teach that the disclosure contained therein should be combined with another, the reason to combine must nevertheless be "clear and particular." *Winner Intern. Royalty Corp. v. Wang*, 202 F.3d 1340, 1348-49 (Fed. Cir. 2000), *citing Dembiczak*, 175 F.3d at 999. "Close

adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.' " *Dembiczak*, 175 F.3d at 999, *quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983).

In this regard, it appears that the second layer (3) of Douchet which the examiner proposes to modify to have a durometer of at least 63 Shore D is in fact not a structural component of the hose (1), but rather is a very thin, *i.e.*, 0.05-0.1 mil, layer which is used an adhesive or "bonding agent" to bond the reinforcement layer (4) to the polyamide core tube (2). [*See*, Douchet, at col. 2, ll. 63-65, and at col. 3, ll. 1-5]. Thus, in the Douchet construction, it appears that it is the polyamide core tube (2), and not the bonding agent layer (3), which supports the reinforcement (4). Such a construction appears to be in contrast to that of Gray *et al.* wherein the core tube (12) is specified to have substantial hardness and stiffness to be self-supporting or dimensionally stable. [See, Gray *et al.*, at col. 2, ll. 40-48].

On this basis, Applicants submit that one of ordinary skill in the art following the teachings of Gray *et al.*, would not have been motivated to modify the polyurethane of Douchet in the manner proposed by the examiner. That is, Gray teaches to provide a core tube (12) which is hard and stiff. However, as it is the polyamide core tube (2) of Douchet which appears to support the reinforcement layer (4), there would be seem to be no reason to harden or stiffen the boding agent layer (3).

Of course, it might be assumed that it is always obvious to interchange materials that are known in the art. Such an assumption, however, would bespeak of the impermissible use of hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Accordingly, Applicants submit that even if the combination proposed by the examiner would have been sufficient to render the claimed invention obvious, there has yet to be articulated a suggestion or other motivation in the prior art or otherwise which would have lead one of ordinary skill in the art to have combined the cited references in the manner proposed.

In addressing Applicants' argument that it would not be obvious to harden the polyurethane bonding agent layer (3) of Douchet because it is a non-structural component of the hose, the examiner has response that: (1) such layer "is a component of the hose;" and (2) the

upper limit of the layer, which according to Douchet is 0.1 mm, "is not significantly smaller than the lower limit, .25mm of the layer of the present invention." As to the former, such argument does seem to assume that it is always obvious to interchanges materials known in the art. As to the latter, Applicants point out that there in fact is no end point overlap as between the Douchet and claimed layers. Indeed, the lower end of the claimed layer is still more than double the thickness of the layer of Douchet, with the upper end of 2.2 mm being more that 20 times the thickness of that layer.

The examiner also has responded that the secondary Gray *et al.* reference has been cited "merely to disclose that it is known that a polyurethane layer can have a shore durometer between about 63 Shore D and 83 Shore D, in order to prevent its displacement into the reinforcement layer applied directly thereto, as is the case in both Douchet and Gray et al." In fact, Douchet does teach at col. 3, ll. 8-11 that, "[i]n some cases, the viscosity of the bonding agent is chosen so as to enable it to pass through the gaps in the filamentary structure 4." In other cases, a "tight reinforcement 4 [does] not allow the bonding agent of the invention to pass through." [col. 3, ll. 11-14]. In either case, a hot melt adhesive is specified, and it is submitted that to modify such layer on any manner suggest by Gray *et al.* or otherwise to be other than as specified in the reference would destroy its intended function as an adhesive. It is well-settled that references are not properly combinable or modifiable if their intended function is destroyed. MPEP § 2143.02, *citing In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

Moreover, unlike Douchet which contemplates that the reinforcement layer (4) be applied to the bonding agent layer (3) while it is still in a molten state to function as an adhesive, Gray *et al.* teaches that core tube (12) is cured prior to the reinforcement being applied. [*See* Douchet, at col. 4, l. 53, bridging col. 5, l. 20]. Accordingly, any teaching which might be gleaned form Douchet regarding the hardness of its core tube (12) would seem to be inapposite as applied to the bonding agent layer(30 of Gray *et al.*

Thus, it is submitted that independent claim 36, as well as dependent claim 37, should be considered to distinguish over the art made of record. Also, it is noted with appreciation that claims 38-40, currently dependent on rejected independent claim 36, have been indicated to constitute allowable subject matter if rewritten in independent form.

## IX. CONCLUSION

As the present claim program has been shown to properly distinguish over the art made of record, Applicants-Appellants respectfully urge the Board to overrule the rejection of the appealed claims and to permit the application to pass to issue.

Respectfully submitted,

Dated: November 22, 2006

John A. Molnar, Jr.
Reg. No. 36,611
Attorney for Applicants-Appellants

## APPENDIX A
## THE CLAIMS ON APPEAL

36. A tubular polymeric composite member comprising:

a first layer comprising a first thermoplastic selected from the group consisting of polyamides, and copolymers and blends thereof; and

a second layer bonded directly to the first layer comprising a second thermoplastic polymeric selected from the group consisting of polyurethanes, and copolymers and blends thereof,

wherein the second thermoplastic material has a durometer of between about 63 Shore D and 83 Shore D.

37. The composite member of claim 36 wherein the second thermoplastic material has a durometer of between about 70 Shore D and 75 Shore D.

38. The composite member of claim 36 wherein the second thermoplastic material comprises a crystallization retarding component.

39. The composite member of claim 38 wherein the crystallization retarding component is a diol which is branched, substituted, or heteroatom-containing.

40. The composite member of claim 36 wherein the second thermoplastic material has a hard segment content of at least about 20%.